

Annual Review of the Public Water System Supervision Program for
the State of Mississippi

Fiscal Year 2019

October 1, 2018 – September 30, 2019

Report Date: April 28, 2020

Summary of State Drinking Water Program

Pursuant to 40 C.F.R. § 142.17, the U.S. Environmental Protection Agency (EPA) Region 4 conducted an end-of-year evaluation of the FY 2019 Public Water System Supervision (PWSS) program administered by the Mississippi State Department of Health (MSDH). In FY 2019, MSDH regulated 1,174 active public water systems (PWSs) that collectively serve 3,142,433 customers. This water system inventory includes 1,035 community water systems (CWSs), 69 non-transient non-community water systems (NTNCWSs), and 70 transient non-community water systems (TNCWSs). Table 1 shows the EPA National Water Program Measures and targets as well as baseline data and the 2019 results for the EPA Region 4 and the State.

Table 1: EPA National Water Program Measures – Mississippi

EPA National Water Program Measures	What EPA Tracks	EPA National FY 2019 Target	Region 4 Baseline ¹	Region 4 FY 2019 Result ²²	State Baseline	State FY 2019 Result
B01. By September 30, 2022, reduce the number of CWSs out of compliance with health-based standards to 2,700. Baseline is 3,600 as of FY 2017.	Number of community water systems out of compliance with health-based standards	Reduce by 182	318	269	22	43
S04. By September 30, 2022, reduce the number of CWSs out of compliance due to health-based violations of the Lead and Copper Rule by 50 percent. Baseline is 308 as of FY 2017.	Number of community water systems out of compliance due to health-based violations of the Lead and Copper Rule (LCR)	Not Applicable	53	33	0	1
S01.1. By December 31, 2022, increase the percent of CWSs that have undergone a sanitary survey within the past three (3) years (five (5) years for outstanding performers or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses) to 98.	Percent of drinking water sanitary surveys completed	93%	90.28%	98.3%	98.5%	97.4%

¹ All baseline data is from 3rd Quarter 2017.

² All results data is from 3rd Quarter 2019 except S01.1, which is from 4th Quarter 2019.

State Resources

MSDH was awarded its FY 2019 PWSS allocation through a Direct Grant. The MSDH FY 2019 PWSS grant allocation was \$1,165,000.

The Mississippi Drinking Water State Revolving Fund (DWSRF) received \$2,161,712 in set asides for FY 2019. Set asides included \$236,900 for Small Systems Technical Assistance, \$740,312 for State Program Management and \$1,184,500 for Local Assistance.

Status of Rule Adoption/Primacy

The EPA Region 4's Drinking Water Program has been working to reduce the backlog of primacy applications under review, and reduction of this backlog is one of the national measures for the program. Mississippi has adopted regulatory authority for all required federal PWSS Program rules promulgated to date. Through the end of FY 2019, the EPA had approved all primacy applications submitted by MSDH.

On March 13, 2019, MSDH satisfactorily responded to issues of concern identified by EPA Region 4 in its review of the RTCR primacy application. Notice of the EPA's intent to approve the application was signed by Region 4's Regional Administrator on August 26, 2019, and the notice was published in the *Federal Register* and *The Clarion-Ledger* (Jackson, MS newspaper) on September 6, 2019. The notice provided a 30-day time period for any person to request a public hearing on the EPA's determination before the approval was final.

Table 2: Status of Rule Adoption/Primacy

Rule	Date of Rule Adoption by State	Primacy Application Status
Administrative Penalty Authority	4/1/2000	Approved 8/1/2001
New PWS Definition	4/1/2000	Approved 8/1/2001
Consumer Confidence Report Rule	4/1/2000	Approved 8/1/2001
Interim Enhanced Surface Water Treatment Rule	12/16/2000	Approved 5/1/2003
Stage 1 Disinfectants and Disinfection Byproducts Rule	12/16/2000	Approved 5/1/2003
Lead and Copper Rule Minor Revisions	10/10/2001	Approved 7/1/2002
Public Notification Rule	5/4/2002	Approved 5/1/2003
Radionuclides Rule	12/9/2004	Approved 2/16/2006
Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring Rule	12/9/2004	Approved 2/16/2006
Filter Backwash Recycling Rule	12/9/2004	Approved 2/16/2006
Long Term 1 Enhanced Surface Water Treatment Rule	7/24/2012	Approved 8/11/2014
Stage 2 Disinfectants and Disinfection Byproducts Rule	7/24/2012	Approved 8/11/2014
Long Term 2 Enhanced Surface Water Treatment Rule	7/24/2012	Approved 8/11/2014

Ground Water Rule	7/24/2012	Approved 8/11/2014
Lead and Copper Rule Short-Term Revisions and Clarifications	7/24/2012	Approved 8/11/2014
Revised Total Coliform Rule	2/25/2016	Approved 10/7/2019

Sanitary Surveys

Under 40 C.F.R. § 142.16, states must conduct sanitary surveys for CWSs no less frequently than every three (3) or five (5) years. The required frequency depends on the system's operational performance level or (for ground water CWS) the system's compliance record and filtration and disinfection practices. For NTNCWSs and TNCWSs, sanitary surveys must be conducted at least once every five (5) years.

Among CWSs, MSDH exceeded the federal goal for completing sanitary surveys once every three (3) or five (5) years (depending on system performance history). As of September 30, 2019, sanitary surveys for 97.4 percent of CWSs were completed within their required schedule.

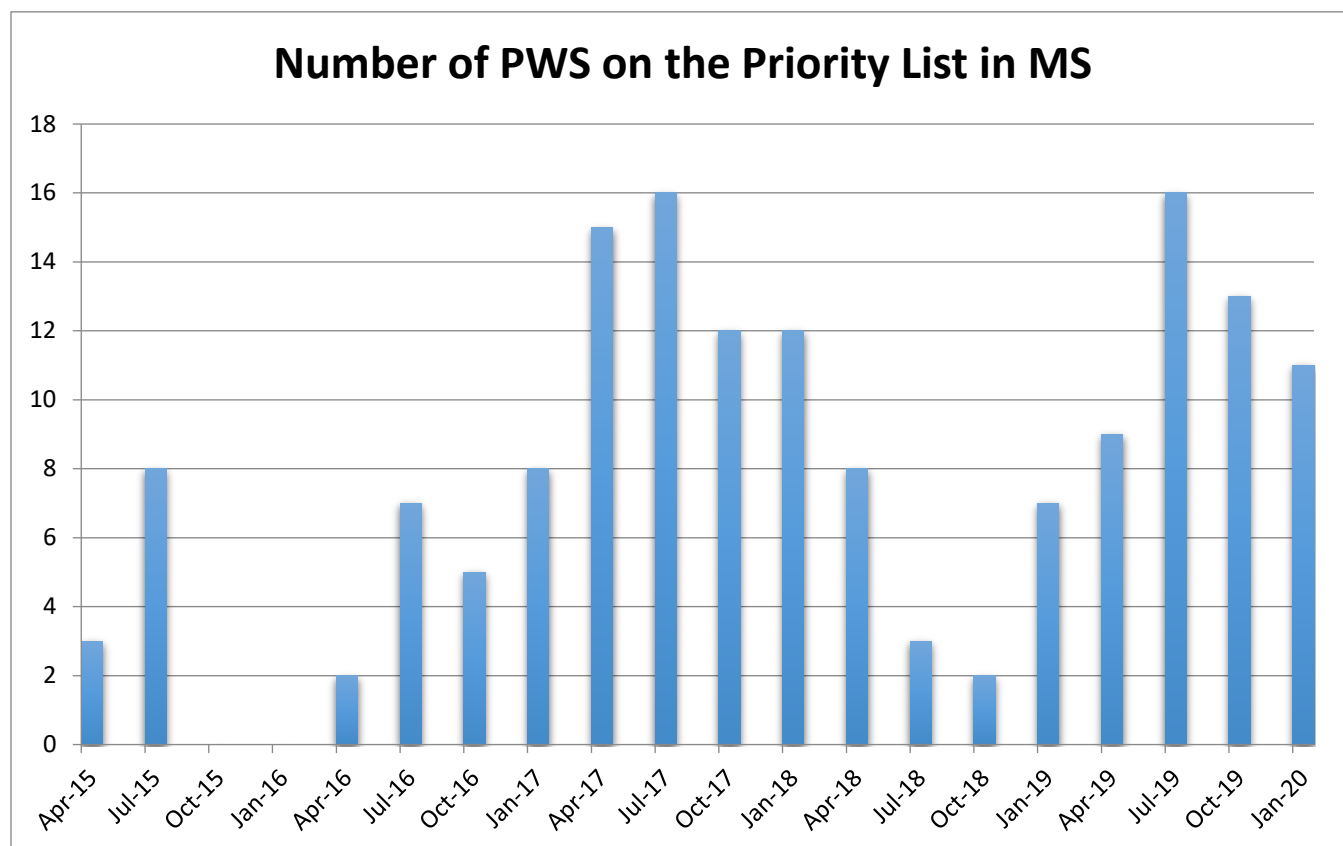
MSDH's regional engineers are responsible for conducting sanitary surveys of PWSs in Mississippi. Under an approach more protective than federal requirements, all categories of PWSs are scheduled to have a sanitary survey completed every three (3) years. Regional Engineers complete their assigned sanitary surveys according to the State's fiscal year schedule (July 1 to June 30). For CWSs and NTNCWSs, MSDH uses a Capacity Assessment Rating (CAR) to evaluate the technical, managerial, and financial capacity of systems during sanitary surveys. MSDH's CAR method is a transparent and efficient method to match systems with technical or financial assistance. MSDH defines significant deficiencies in each of the eight (8) required sanitary survey components. The most commonly identified significant deficiencies among Mississippi water systems included: inadequate internal cleaning/maintenance of storage tanks, lack of redundant mechanical components where treatment is required and improperly constructed wells.

Enforcement

The EPA works closely with all eight (8) states to address non-compliant systems and reduce the number of priority systems. *The EPA Drinking Water Enforcement Response Policy (December 8, 2009)*³ established six-months as the definition of "timely" standard for states to address with formal enforcement or return to compliance systems that have an Enforcement Targeting Tool (ETT) score greater than or equal to 11 (priority systems). On a quarterly basis, the EPA evaluates the ETT and provides reports to the states. If needed, the EPA holds meetings with the State to discuss new systems on the ETT, challenges with addressing the ETT and any overall PWS enforcement program implementation issues. Figure 1 shows the number of priority systems in the State for each calendar quarter over the past five (5) years.

³ Available at <https://www.epa.gov/enforcement/enforcement-response-policy-public-water-system-supervision-pwss-program-under-safe>.

Figure 1: MS Priority Systems (2015 -2020)



Additionally, the EPA has six (6) FY 2020 – 2023 National Compliance Initiatives (NCIs) and one focuses on drinking water compliance. The goal of the NCI is to use a broad range of compliance assurance approaches with CWSs, ranging from technical assistance to formal enforcement, to promote greater compliance with the SDWA. The EPA will work with state primacy agencies to identify, prioritize and address an agreed upon subset of CWSs with known, ongoing noncompliance with the SDWA. Additionally, the NCI will seek to identify and address risks at CWSs that may have gone unnoticed (e.g., noncompliance information is not reflected in the database of record). The NCI's specific goals include: (1) reduce by 25 percent the number of CWSs out of compliance with health-based standards, as per EPA's Strategic Plan; (2) reduce by 25 percent the number of CWSs in priority status (using the ETT) due to persistent noncompliance with monitoring and reporting requirements; (3) evaluate and address 50 percent of CWSs serving over 10,000 people to ensure compliance with National Primary Drinking Water Regulations.

The EPA's Office of Enforcement and Compliance Assurance, the Office of Water, Regional Enforcement and Compliance Assurance Divisions and Regional Water Divisions will work in cooperation with state primacy agencies to advance our common mission of ensuring public health protection. Consistent with the SDWA and the EPA policies, close communication and joint, strategic planning with state primacy agencies will play a key role. Achieving meaningful progress will require ongoing coordination and collaboration between EPA and the Primacy Agencies.

Assistant Administrator Susan Bodine's July 11, 2019 memorandum on *Enhancing Effective Partnerships Between the EPA and States in Civil Enforcement and Compliance Assurance Work*, (Partnership Policy), establishes expectations. The EPA and the state primacy agencies will confer and identify priorities for the EPA involvement, roles and responsibilities and timelines for the SDWA compliance activities.

DWSRF Program Integration: Capacity Development and Small System Support

MSDH uses its CAR program and SDWA compliance to identify water systems in need of capacity assistance. A MSDH regional engineer assesses the performance of each CWS and NTNCWS annually during the annual compliance inspection or sanitary survey. The rating is determined using Capacity Assessment Forms, which consists of technical, managerial, and financial questions designed to identify tasks that a system must routinely accomplish to demonstrate its capacity to comply with current and proposed SDWA requirements. The rating scale ranges from "0" (minimum) to "5.0" (maximum). Using DWSRF set-aside funding, MSDH utilizes technical assistance contractors to provide free technical assistance to low-scoring systems and systems in long-term non-compliance. MSDH provides technical assistance organizations an annual list of systems in need of assistance. The contractors provide periodic reports to MSDH regarding the benefits of their assistance efforts.

Most of the CWSs (95 percent) in Mississippi are classified as small systems (service populations less than or equal to 10,000). Many of these systems benefit from assistance provided by MSDH and its partner organizations. During FY 2019, activities undertaken in some of the assistance program areas are outlined below:

1. ***Comprehensive and Intermediate Technical Assistance.*** Through a DWSRF-funded contract with MSDH, Mississippi State University Extension Service (MSU-ES) provides one-on-one assistance to PWSs to improve their capacity ratings. CWSs are strongly encouraged to utilize available assistance to increase their ratings. MSDH ranks systems by their CAR and sends letters to the lowest performing systems. If a system refuses assistance, MSDH may take future compliance actions on that system. The CWS receives targeted and specialized assistance based on the specific system's needs. Often, many CWSs need to make policy and management adjustments, which can take several months or longer to complete. During FY 2019, MSU-ES provided comprehensive and intermediate assistance to 12 CWSs.
2. ***PEER Review Program.*** This voluntary program pairs a selected group of water system operators with other operators to assist them in preparing for annual MSDH inspections. MSDH provides MSU-ES a list of low-ranking systems. MSU-ES sends a letter to the referred CWSs to determine their interest in participating in the PEER Review Program. If the system is interested, MSU-ES personnel coordinate a meeting with the PEER Review team and at least one system operator and a responsible official. During the meeting, all components of the capacity assessment are performed. After the meeting, the PEER Review team gives the reviewed system a report, which outlines issues and suggestions for improvement. The PEER Review Program primarily emphasizes technical components while providing limited managerial and financial assistance. During FY 2019, the PEER Review team assisted 14 CWSs.
3. ***Hands-On Operator Training.*** The Mississippi Rural Water Association (MSRWA) provides small system operators specialized "hands-on" training and skills, which enable them to effectively operate water systems. The training sessions, held throughout the State, provide participants with hands-on experience, such as meter and chlorinator repair, fire hydrant maintenance, leak detection, etc. The operators' newly acquired skills may lead to potential cost savings to the water systems since operators no longer have to outsource all repairs.

4. **Board Management Training.** State law requires newly elected board members of private, non-profit water systems and officials of municipal water systems with a population of 10,000 or fewer to receive training in their duties and responsibilities. MSU-ES coordinates with other selected training partners to deliver this training throughout the State. During FY 2019, MSU-ES administered 13 Board Management Training sessions to 239 board members and managers representing 157 PWSs. By June 30, 2020 MSDH plans to deploy an online Board Management Training to reduce the number of untrained board members and PWS managers.
5. **Asset Management.** In FY 2019, MSRWA was able to provide three (3) training courses providing instruction to 96 attendees representing 52 different PWSs. Because of the emphasis placed on asset management in America's Water Infrastructure Act, MSDH is making asset management a key metric in in Mississippi's Capacity Development Program and strategy for FY 2020 and following years. MSDH plans to use their Capacity Assessment program to encourage water systems that need to start or improve on asset management.

DWSRF Program Integration: Operator Certification

Mississippi's regulation governing the certification of operators of PWSs was promulgated under the authority of the Municipal and Domestic Water and Wastewater System Operator's Certification Act of 1986. This law made the certification for operator's mandatory after July 1, 1987. In Mississippi, certified operators are required for CWSs and NTNCWSs. The Bureau of Public Water Supply (the Bureau) of MSDH issues and renews operator certificates. Water systems are classified according to specific criteria included in Mississippi's regulation. Operator qualifications are commensurate with the complexity of operating these systems.

In their Public Water Supply Annual Report submitted by the PWS, the owner or responsible official of the system designates the operator in responsible charge of the system. In 2018, certified operators were required at 1,040 CWSs and 70 NTNCWSs; however, six (6) community systems and one (1) NTNCWSs did not have a certified operator. If a system fails to hire a certified operator and/or provide their Public Water Supply Annual Report, the Bureau may issue an enforcement action to the system.

The new Waterworks Operator Database is expected to improve the certification and renewal process. Operators will be able to track their training credits. Depending on experience, Mississippi operators are required to have up to 48 hours of continuing education in each 3-year certification period.

The State continues to meet the public health objectives and nine (9) baseline standards under the provisions to the 1986 Safe Drinking Water Act Amendments. The most recent Operator Certification program annual submittal was approved on August 29, 2019 by the EPA.

Rule Implementation

The EPA's FY 2018–FY 2022 Strategic Plan⁴ Goal 1, Objective 1.2, Strategic Measure (SM-2) is to reduce the number of CWSs out of compliance with health-based standards to 2,700 by September 30, 2022. This is a national measure and is also referred to as the EPA's "Breakthrough Measure" for drinking water. The data source for the measure is the EPA's SDWIS Federal Data Warehouse, which contains compliance information about PWSs and their violations of the NPDWRs as reported to the EPA by the state primacy agencies. The baseline is the data that was available on October 1, 2017. At that time, Region 4 had 318 CWSs with health-based violations; 23 CWSs were in Mississippi.

⁴ Available at <https://www.epa.gov/planandbudget/fy-2018-2022-epa-strategic-plan>.

As of October 1, 2019, Region 4 had 269 CWSs with health-based violations, and 43 of those CWSs were in Mississippi. The figures below show the number of CWSs with health-based violations, the drinking water regulations violated, and the state-specific information. Figure 2 shows the number of CWSs with health-based violations for each Region 4 state. Figure 3 shows the number of CWSs with health-based violations by Rule. Figure 4 shows the largest number of CWSs with health-based violations in Mississippi was for the Ground Water Rule, followed by the Stage 2 Disinfectants and Disinfection Byproducts Rule.

Figure 2⁵: CWSs with Health Based Violations – 3q2019

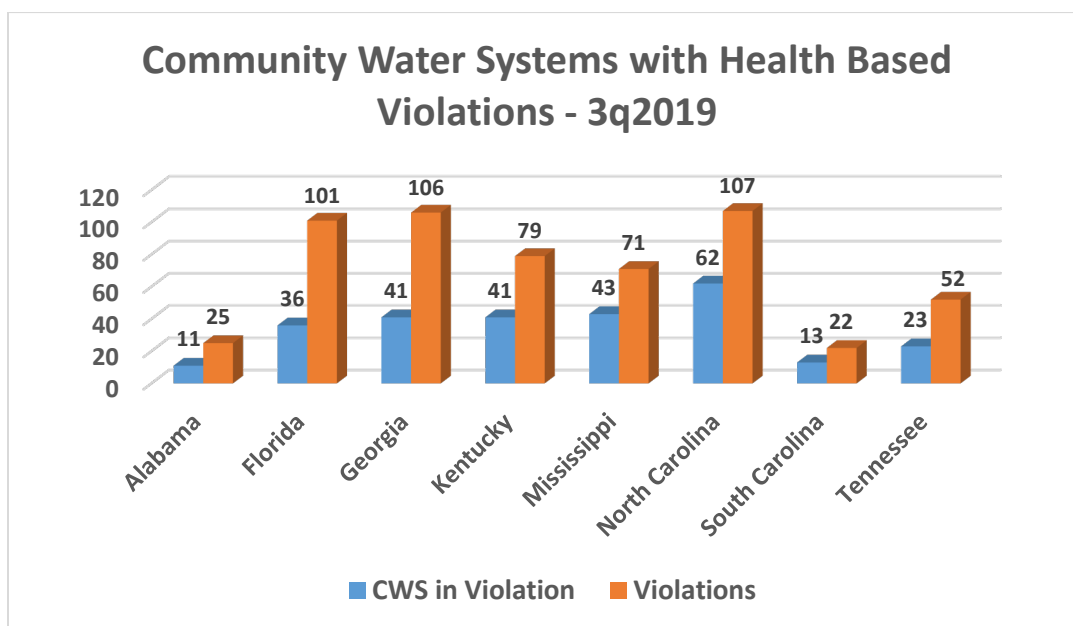
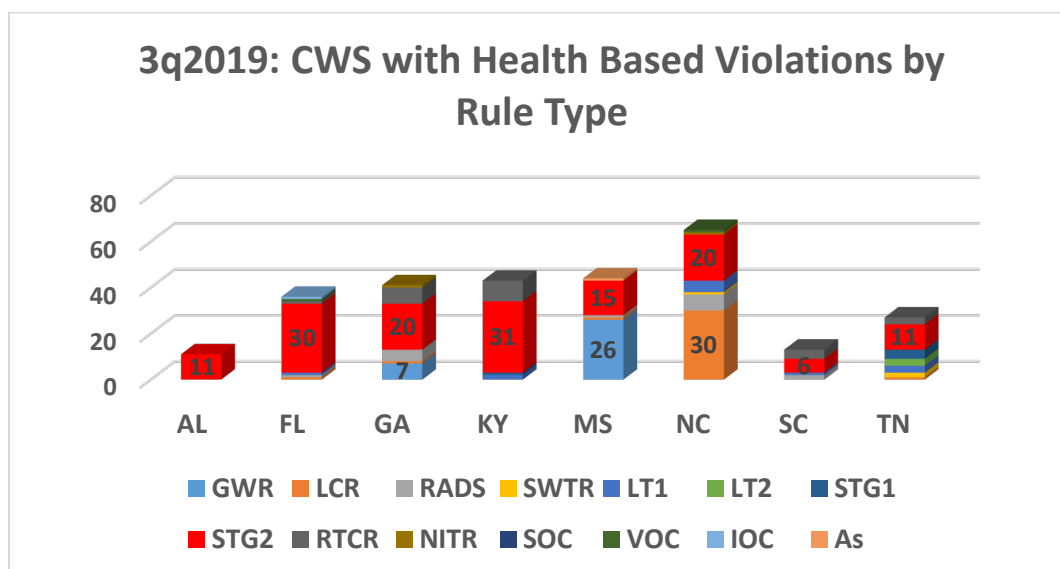
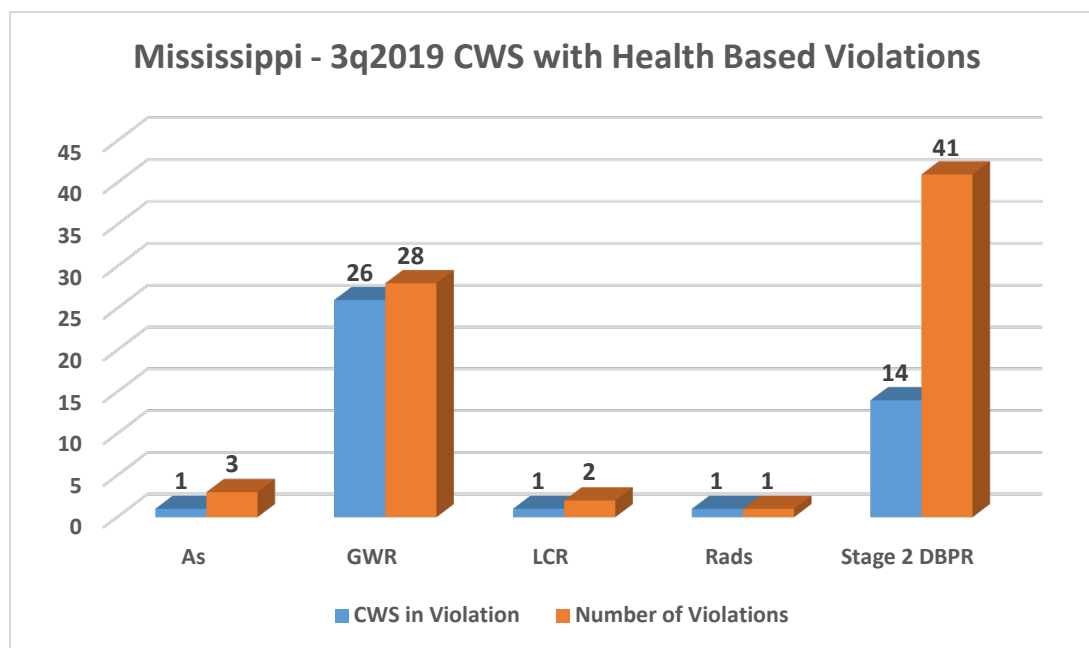


Figure 3: CWSs with Health Based Violations by Rule Type - 3q2019



⁵ Refer to Health-Based Violation Rule Abbreviation List on Page 11.

Figure 4: Mississippi Health Based Violations - 3q2019



Data Management and Reliability

MSDH uses SDWIS/STATE to manage PWSS Program information and SDWIS/FedRep for reporting data to the EPA. MSDH uses the most current version of SDWIS/STATE (version 3.33) which ensures reporting on all drinking water rules. MSDH determines rule compliance using SDWIS/State Compliance Decision Support module and some internal spreadsheets.

MSDH receives sample data from the MSDH Public Health Laboratory (MPHL) and commercial laboratories by a combination of electronic data files or paper submissions. Paper submissions are manually entered. SDWIS/STATE and any electronic data flows are handled with MSDH's customized SDWIS/STATE add-on applications. The MPHL provides the majority of laboratory analytical services and support to the MSDH Bureau and the PWSS monitoring and compliance program.

MSDH's compliance officers handle the data management and compliance determination work for all of the drinking water rules. Additionally, MSDH uses the Drinking Water Watch application for public web display of drinking water system information, sample analytical data, violations and enforcement information and other pertinent information.

SDWIS/STATE maintenance and custom designed add-on report applications are done by an off-site contract employee. He is the SDWIS/STATE Administrator and he also participates in EPA/ASDWA data management workgroups and provides input to the ongoing SDWIS Prime project on behalf of MSDH.

Laboratory Certification

Pursuant to 40 C.F.R. § 142.10(b)(3)(i), the State is required to establish and maintain a state program for the certification of laboratories conducting analytical measurements of drinking water contaminants pursuant to the

requirements of the State primary drinking water regulations. To receive and retain primacy under the requirements of 40 C.F.R. § 142.10(b)(4), the State must have laboratory facilities available and capable of performing analytical measurements for all contaminants specified in the State Primary Drinking Water Regulations. This laboratory is considered the Principal State Laboratory System and must be certified by the EPA.

Principal State Laboratory (PSL): The laboratory is ***Certified*** through August 29, 2022. The certification status of each area of responsibility is listed in Table 6, below.

Table 6: State Primacy Laboratory Certification Status

Primacy Laboratory Name and Location	Laboratory Type	Certification Entity and Date of Most Recent On-site Audit				
		Chemistry	Microbiology	Radiochemistry	Asbestos	Dioxin
EMSL Analytical, Inc.	Commercial				X	
MPHL, Jackson, MS	State (PSL)	X	X	X		
Eurofins Eaton, South Bend, IN	Commercial	X		X		
Eurofins Eaton, Monrovia, CA	Commercial			X		X
Texas Department of Health Services	State	X				

Laboratory Certification Program: The program is deemed ***Effective*** through August 29, 2022. The number of contract laboratories assessed is listed in Table 7 and 8. The number of certification officers performing the audits and tracking drinking water proficiency tests within the program is listed in Table 9.

Table 7: State Laboratory Certification Program

Number of Laboratories Certified for Drinking Water Analyses in State and Out of State (*)				
Chemistry	Microbiology	Radiochemistry	Cryptosporidium	Asbestos
2	5	0	0	0

Table 8: Laboratories Certified through Reciprocity and Other Agreements by the State

Number of Laboratories Certified for Drinking Water Analyses in State and Out of State (*)				
Chemistry	Microbiology	Radiochemistry	Cryptosporidium	Asbestos
11	4	0	0	3

Table 9: Number of State Certified Auditors

Area of Responsibility	Number of Auditors Certification Officers for the Areas of Responsibility
Chemistry	4
Microbiology	3
Radiochemistry	0
Cryptosporidium	0
Asbestos	0

Health-Based Violations Rule Abbreviation List

GWR	Ground Water Rule
LCR	Lead and Copper Rule
RADS	Radionuclides Rule
SWTR	Surface Water Treatment Rule
LT1	Long-Term 1 Enhanced Surface Water Treatment Rule
LT2	Long-Term 2 Enhanced Surface Water Treatment Rule
STG1	Stage 1 Disinfectants and Disinfection Byproducts Rule
STG2	Stage 2 Disinfectants and Disinfection Byproducts Rule
RTCR	Revised Total Coliform Rule

NITR	Nitrate and Nitrite Rule
VOC	Volatile Organic Contaminants
SOC	Synthetic Organic Contaminants Rule
As	Arsenic Rule